

OIB - HU-25C Guardian 07/13/16 Science Report

Aircraft:

[HU-25A Guardian #525](#) ([See full schedule](#))

Date:

Wednesday, July 13, 2016

Mission:

OIB

Mission Location:

Arctic Ocean

Mission Summary:

This line was designed to survey a set of lines passing over three undersea moorings from the Beaufort Gyre Experiment project and transit as far north into the main pack ice as possible along the 150 degree line of longitude to coordinate with the flight of the SIZRS (Seasonal Ice Zone Reconnaissance) project C-130.

We started out under clear skies from Barrow and obtained some data at high altitude during transit over patchy thin clouds over areas of highly varying ice concentration. Data was collected until the descent to the GAM1 mooring waypoint when clouds became thicker and the laser was not able to penetrate through. We passed over undersea mooring waypoint GAM1 at 20:07Z and NBGOSB at 20:43Z. After the GAM1 waypoint the ATM was not able to range through the clouds, during this time the ATM system malfunctioned and the system was brought back after the NBGOSB waypoint, during this time we descended down to 1100 feet to get under the cloud deck. After waypoint SZR770 the ATM system began to range through to the surface again through a mixture of thin and thick clouds along the line, generally clearing out as we headed south. The Coast Guard C-130 with the SIZRS experiment passed near at 21:33Z, after that we diverted the line towards a large sea ice floe towards the east to get measurements of compact pack ice under clear skies, much good data was collected during this portion of the flight. We continued south along the 150 longitude line past the SZR740 waypoint until 21:59Z as there was still substantially large ice floes encountered and almost no clouds.

Overall, it was a successful first mission with a wide variety of data (pack ice, melt ponds, refrozen melt ponds, snow-covered ice, snow-free ice, and ridges) collected under cloud free conditions in concentrated sections of the pack ice. ATM collected about 1 hour of good data along the flight line.

ATM: 10 Gb

FLIR: 6 Gb

DMS: 31.5 Gb, 6112 frames

Submitted by:

Nathan T. Kurtz on 07/13/16

File:

 [sizrs1map.pdf](#)

Related Flight Report:

HU-25A Guardian #524 07/13/16

Flight Number:

OIB 2016 on HU25A #5

Payload Configuration:

ATM and DMS

Nav Data Collected:

No

Total Flight Time:

3.4 hours

Submitted by:

Richard Yasky on 07/14/16

Flight Segments:

From:	PABR	To:	PABR
Start:	07/13/16 19:11 Z	Finish:	07/13/16 22:35 Z
Flight Time:	3.4 hours		
Log Number:	16F003	PI:	Nathan Kurtz
Funding Source:	Thomas Wagner - NASA - SMD - ESD Cryosphere & International Polar Year		

Purpose of Flight:	Science
Comments:	First Sea Ice science flight of deployment. Flew a diamond pattern with a north to south transect down the 150 degree west longitude. Despite some low stratus clouds on the route the collection of sea ice data was successful for approximately 60-70 percent of the low altitude portion.

Flight Hour Summary:

	16F003
Flight Hours Approved in SOFRS	121.25
Total Used	126.9
Total Remaining	-5.65

16F003 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
06/29/16	OIB 2016 on HU25A ICF	Science	2	2	119.25
07/11/16	OIB 2016 on HU25A #1	Ferry	2.6	4.6	116.65
07/11/16	OIB 2016 on HU25A #2	Ferry	2.5	7.1	114.15
07/11/16 - 07/12/16	OIB 2016 on HU25A #3	Ferry	2.2	9.3	111.95
07/12/16 - 07/13/16	OIB 2016 on HU25A #4	Ferry	2.6	11.9	109.35
07/13/16	OIB 2016 on HU25A #5	Science	3.4	15.3	105.95
07/14/16	OIB 2016 on HU25A #6	Science	3.5	18.8	102.45
07/15/16	OIB 2016 on HU25A #7	Science	3.7	22.5	98.75
07/19/16 - 07/20/16	OIB 2016 on HU25A #8	Science	3.6	26.1	95.15
07/20/16	OIB 2016 on HU25A #9	Science	3.4	29.5	91.75
07/21/16	OIB 2016 on HU25A #10	Science	3.6	33.1	88.15
07/22/16	OIB 2016 on HU25A #11	Ferry	3.9	37	84.25
07/22/16	OIB 2016 on HU25A #12	Ferry	3.2	40.2	81.05
07/22/16	OIB 2016 on HU25A #13	Ferry	2.1	42.3	78.95
08/23/16	OIB 2016 on HU-25 #14	Science	2.3	44.6	76.65
08/25/16	OIB 2016 on HU-25 #15	Ferry	3.2	47.8	73.45
08/25/16	OIB 2016 on HU-25 #16	Ferry	2.2	50	71.25
08/27/16	OIB 2016 on HU-25 #17	Science	3.7	53.7	67.55
08/29/16	OIB 2016 on HU-25 #18	Science	3.8	57.5	63.75
08/29/16	OIB 2016 on HU-25 #19	Science	3.5	61	60.25
09/01/16	OIB 2016 on HU-25 #20	Science	3.4	64.4	56.85

09/02/16	OIB 2016 on HU-25 #21	Science	3.8	68.2	53.05
09/02/16	OIB 2016 on HU-25 #22	Science	3.8	72	49.25
09/05/16	OIB 2016 on HU-25 #23	Science	0.6	72.6	48.65
09/06/16	OIB 2016 on HU-25 #24	Science	3.5	76.1	45.15
09/09/16	OIB 2016 on HU-25 #25	Science	3.5	79.6	41.65
09/09/16	OIB 2016 on HU-25 #26	Science	3.5	83.1	38.15
09/10/16	OIB 2016 on HU-25 #27	Science	3	86.1	35.15
09/11/16	OIB 2016 on HU-25 #28	Science	3.9	90	31.25
09/11/16	OIB 2016 on HU-25 #29	Science	3.7	93.7	27.55
09/12/16	OIB 2016 on HU-25 #30	Science	3.3	97	24.25
09/12/16	OIB 2016 on HU-25 #31	Science	2.7	99.7	21.55
09/13/16	OIB 2016 on HU-25 #32	Science	4	103.7	17.55
09/13/16	OIB 2016 on HU-25 #33	Science	2.9	106.6	14.65
09/15/16	OIB 2016 on HU-25 #34	Science	3.7	110.3	10.95
09/16/16	OIB 2016 on HU-25 #35	Ferry	2.4	112.7	8.55
09/16/16	OIB 2016 on HU-25 #35	Ferry	1.7	114.4	6.85
09/16/16	OIB 2016 on HU-25 #35	Ferry	1.7	116.1	5.15
09/17/16	OIB 2016 on HU-25 #38	Ferry	2.8	118.9	2.35
09/17/16	OIB 2016 on HU-25 #38	Ferry	2.9	121.8	-0.55
09/19/16	OIB 2016 on HU-25 #40	Ferry	2.5	124.3	-3.05
09/19/16	OIB 2016 on HU-25 #40	Ferry	2.6	126.9	-5.65

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

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